

AIRE

REISSUE PATENT APPLICATION TRANSMITTAL FORM

Address to:

Assistant Commissioner for Patents
Box Patent Application
Washington, DC 20231

Attorney Docket No: 1575.001

First Named Inventor: Holliday, David

Original Patent Number: 5,769,688

Original Patent Issue Date: June 23, 1998

(Month/Day/Year)

Express Mail Label No. EL132639937US

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02/04/99

APPLICATION FOR REISSUE OF

(Check applicable box)

☒ Utility Patent ☐ Design Patent ☐ Plant Patent

APPLICATION ELEMENTS

1. ☒ Fee Transmittal Form (PTO/SB/56)
2. ☒ Specification and Claims
(amended, if appropriate)
3. ☒ Drawing(s)
(proposed amendments, if appropriate)
4. ☒ Reissue Oath/Declaration
(original and copy)(37 CFR §1.175 (PTO/SB/51 or 52))
5. Original U.S. Patent
☒ Offer to Surrender Original Patent
(37 C.F.R. §1.178)
or
☐ Ribboned Original Patent Grant
☐ Affidavit/Declaration of Loss
(PTO/SB/55)
6. Original U.S. Patent currently assigned?
☐ Yes ☒ No
(If Yes, check applicable box)
☐ Written consent of all Assignees
(PTO/SB/53 or 54)
☐ 37 CFR §3.73(b) Statement
☐ Power of Attorney

ACCOMPANYING APPLICATION PARTS

7. ☐ Foreign Priority Claim (35 U.S.C. 119)
8. ☐ Information Disclosure Statement ☐ Copies of IDS Citations
9. ☐ English Translation of Reissue Oath/Declaration
(if applicable)
10. ☒ Small Entity Statement
☐ Small Entity Statement filed in prior application
- Status at all proper and desired
11. ☒ Preliminary Amendment
12. ☒ Return Receipt Postcard (MPEP 503)
(should be specifically itemized)
13. ☐ Other: _____

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Date

February 4, 1999

Applicant or Patentee: David L. Holliday Attorney Docket #: 1575.001
Serial No. or Patent No. 5,769,688
Filed or Issued: 5/23/98
For: ATHLETIC BREAST AND CHEST PROTECTOR

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37 CFR 1.9(f) and 1.27(b) - INDEPENDENT INVENTOR)**

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled
ATHLETIC BREAST AND CHEST PROTECTOR
described in

- (x) the specification filed herewith
() application serial no. _____, filed _____
() patent no. _____, issued _____

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- [x] no such person, concern, or organization
[] persons, concerns, or organizations listed below*

***NOTE:** Separate verified statements are required from each named, person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

FULL NAME: _____

ADDRESS: _____

[] INDIVIDUAL [] SMALL BUSINESS CONCERN [] NONPROFIT ORGANIZATION

FULL NAME: _____

ADDRESS: _____

[] INDIVIDUAL [] SMALL BUSINESS CONCERN [] NONPROFIT ORGANIZATION

FULL NAME: _____

ADDRESS: _____

[] INDIVIDUAL [] SMALL BUSINESS CONCERN [] NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon, or any patent to which this verified statement is directed.

David L. Holliday

NAME OF INVENTOR

NAME OF INVENTOR

NAME OF INVENTOR

David L. Holliday
SIGNATURE OF INVENTOR

SIGNATURE OF INVENTOR

SIGNATURE OF INVENTOR

2/4/99
DATE

DATE

DATE

**IN THE UNITED STATES PATENT AND
TRADEMARK OFFICE**

In Reissue Application of:

Patent Owner: David Holliday
U.S. Patent No: 5,769,688
Issue Date: June 23, 1998
For: **ATHLETIC BREAST AND CHEST PROTECTOR**

PRELIMINARY AMENDMENT

TO: Commissioner of Patents and Trademarks
Box Patent Application
Washington, D.C. 20231

Dear Sir:

By way of Preliminary Amendment in the within Reissue application, Applicant adds the following claims:

5. A chest and breast protector for women, comprising an internal breast plate formed as a unitary member so as to comprise a right cup, a left cup and a center sternum area, wherein said center sternum area is positioned between said right cup and said left cup, and said right cup and said left cup are each connected to said center sternum area, and wherein said center sternum area has flexibility therein along a longitudinal axis passing between said right cup and said left cup.

6. A chest and breast protector for women as described in claim 5, wherein said center sternum area comprises an upper hinge and a lower hinge, and a void which is positioned between said upper hinge and said lower hinge and which is oriented generally vertically.

7. A chest and breast protector for women as described in claim 5, further comprising a resilient encasement which surrounds said internal breast plate.

8. A chest and breast protector for women as described in claim 6, further comprising a resilient encasement which surrounds said internal breast plate.

9. A chest and breast protector for women as described in claim 5, wherein said internal breast plate further comprises at least one vent therein.

10. A chest and breast protector for women as described in claim 7, wherein said internal breast plate further comprises at least one vent therein.

Respectfully submitted,



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Dated: 2/3/1999

ATHLETIC BREAST AND CHEST PROTECTOR

BACKGROUND OF THE INVENTION

1. FIELD OF THE INVENTION

The present invention relates to the field of breast and chest protectors for women and, more particularly, to an athletic breast and chest area protector designed for women who play team sports that involve a high degree of bodily movement and physical contact.

2. DESCRIPTION OF THE RELATED ART

As the field of athletics becomes increasingly more popular among women, both young and older, injuries unique to female athletes garnish greater concern and attention. In particular, women athletes are often not adequately protected from direct impact to the breast or chest area which may result in serious bruising and even long term medical ailments. Different types of athletic activities have different levels of bodily movement and physical contact. Although the sports of soccer, basketball and even baseball are considered non-contact sports, there is still a high degree of potential bodily contact, especially in basketball and soccer when multiple players are rushing to a single ball in play. Impact to the breast and chest area from a flying ball may also cause serious injury to a female athlete. This is particularly true in the games of softball and baseball where the ball is hard and may be traveling at high speeds. In addition to injuries caused by physical contact, injuries may also arise from rigorous bodily movement even from non-contact activities such as aerobics.

Existing breast protectors in this field attempt to incorporate some level of impact protection inside a supportive brassiere. In an attempt to provide an unobtrusive means of protecting a woman's breasts and chest area, however, the prior art fails to provide adequate protection for certain athletic related impacts to the breasts and chest area and fail. U.S. Pat. No. 5,244,432 to May N. Moy Au and Sheryl Unsworth is a good example of the prior art and how such inventions are designed to protect the individual breasts. The Moy Au et al. patent describes an unique brassiere design with a right and left protective cup insert. These protective cups are designed to protect the breast area from athletic and related impacts. The protective cups themselves are designed with a soft foam cushion around the extreme edges of the cups to help absorb impact.

U.S. Pat. No. 4,607,640 to LeRoy H. McCusker is similar to the Moy Au et al. invention in function, in that the main protected area of the female body is the breast area. Also, neither the Moy Au et al. invention nor the McCusker invention protect the center chest or sternum area. The McCusker invention consists of an athletic type brassiere designed with a right and left insert made of a high density polyethylene plastic or similar material. The purpose of the inserts is to provide protective support against impacts during the playing of athletics.

U.S. Pat. No. 5,022,887 to LaJean Lawson is designed similarly to the aforementioned inventions in that there is a right and left protective plate that inserts into a fabric brassiere. These hard cup plates are designed to cover the entire breast and overlap each other near the area of the sternum. According to the inventor, the purpose of the overlap in the sternum area is to provide additional protection to the center chest area. Although the Lawson invention provides protection to the center chest area and sternum, the right and left plates simply overlap, they are not connected at the center in any way.

Unlike the prior art, the present invention incorporates the use of impact absorption material and a high density plastic protective breast plate that comprises a one piece unit with an open center flex point near the sternum area. One primary advantage of such a singular breast plate construction is that any impact to a single breast will be absorbed by and transferred throughout the entire chest area instead of exclusively in the vicinity of the chest area where the breast is located as would be the case with the prior art.

The high density plastic protective breast plate of the present invention is sealed inside a soft, impact absorbing material designed to further soften any impact to the breast and chest area as well as mimic a soft tissue impact of a ball in play when necessary such as in the sport of soccer where the ball may be maneuvered by the chest area.

SUMMARY OF THE INVENTION

It is therefore an objective of this invention to provide adequate protection to women athletes from significant impact to the breast and chest area.

It is further an objective of this invention to provide a breast and chest protector for women athletes that is designed to distribute a localized impact throughout the entire chest region and not exclusively to one side of the chest.

It is still further an objective of this invention to provide a breast and chest protector for women athletes that allows for adequate ball control, especially in the case of soccer, in the chest area by providing a soft cushion outer surface.

It is also an objective of this invention to provide sufficient protection to the sternum area of the chest while still providing adequate flexibility for movement and contortions.

It is yet another objective of this invention to provide adequate support to the breasts during rigorous body movement and motion.

These as well as other objectives are accomplished with an athletic breast and chest protector comprising an internal hard plastic breast plate with a right and left cup joined at the center sternum area by an upper and lower sternum hinge. The hard internal breast plate is encased in an impact absorbing rubberized foam. The thickness of the rubberized foam is greater on the exterior surface of the breast and chest protector than the interior surface in order to maximize direct impact absorption.

The breast and chest protector has a right and left shoulder and back strap that hook around the back and shoulders to secure the protector in place over the breast and chest area. In order to maximize the diffusion of a serious impact to the breast area, the breast and chest protector covers a large area or the chest. The breast and chest protector also helps to hold the breasts in place during rigorous movement such as during aerobic exercises. Both the right and left cups have a right and left bottom lip that extends to the ribs just below the breast.

BRIEF DESCRIPTION OF THE DRAWINGS

A preferred embodiment of the present invention is described herein with reference to the drawings wherein:

FIG. 1 of the drawings shows a perspective, external view of the present invention revealing the soft rubberized foam exterior and shoulder and back straps.

FIG. 2 of the drawings shows a perspective, internal view of the present invention revealing the hard internal breast plate and sternum hinges.

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FIG. 3 of the drawings is a cross sectional view of FIG. 2 revealing the difference in thickness of the soft rubberized foam between the inside and outside right and left cups. The internal hard internal breast plate is sandwiched between these two layers or soft rubberized foam.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings by numerals of reference, there is shown in FIG. 1, 2 and 3 the breast and chest protector (10). The right and left cups (12R and 12L) are shown connected together by the sternum plate (13). The right and left shoulder and back straps (20R and 20L) are secured to the breast and chest protector (10) by hooking to a right and left top slit (31R and 31L) and a right and left side slit (33R and 33L).

Referring to FIG. 1, the soft rubberized foam exterior (14) of the breast and chest protector (10) provides for an initial absorption of any impact to the breast and chest area. This soft rubberized foam exterior (14) is made of a polyethylene plastic material that possesses a soft, almost flesh-like quality. This material will absorb impact from body contact from another player as well as contact from a ball in play. The upper chest and sternum is protected by the center sternum area (13) of the breast and chest protector (10) located between the right and left cups (12R and 12L). In the case of the sport of soccer, a woman athlete can successfully "chest" the soccer ball for proper control. The ribs just below the breasts are provide with added protection by a right and left bottom lip (32R and 32L) just below the right and left cups (12R and 12L).

Still referring to FIG. 1, the strapping means used to secure the chest and breast protector (10) to the chest of a woman athlete is provided by a right and left shoulder and back strap (20R and 20L). The woman's arms pass through the and back straps which are hooked together in the back by corresponding strap hooks (22) and strap loops (21). The right and left shoulder and back straps (20R and 20L) may be tightened or loosened by a buckle adjustment (28).

Referring to FIG. 2, the hard internal breast plate (30) is revealed. This hard internal breast plate (30) helps to displace any impact to the breast and chest protector (10) by spreading the impact over through out the entire hard internal breast plate (30). Unlike the prior art the hard internal breast plate (30) is a singular plate with a lower sternum hinge (34) and upper sternum hinge (36) connecting the right and left cups (12R and 12L). The lower hinge (34) and upper hinge (36) have a shallow slit running lengthwise over the high density plastic material to allow for minor flexing of the right and left cups (12R and 12L). The space between the lower hinge (34) and upper hinge (36) is left open to allow for ventilation yand cooling.

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Referring to FIG. 3, a cross sectional view of the breast and chest protector (10) shown in FIG. 1 is provided. The hard internal breast plate (30) is shown sandwiched between a soft rubberized foam interior (16) of the soft rubberized foam and the soft rubberized foam exterior (14). The foam exterior (14) is slightly thicker than the foam interior (16) to act as an initial absorption contact point for an impact. The center sternum area (13) is shown joining the right and left cups (12R and 12L).

A preferred embodiment of the present invention is described herein. It is to be understood, of course, that changes and modifications may be made in the embodiment without departing from the true scope and spirit of the present invention as defined by the appending claims.

That which is claimed is:

1. A chest and breast protector for women athletes, comprising, in combination:

- a. a hard internal breast plate formed to provide a right and left cup of equal size, said hard internal breast plate conforming to the contour of a woman's breasts and front torso;
- b. a soft rubberized foam exterior and interior surrounding the entirety of said hard internal breast plate;
- c. a center sternum area connecting said right and left cups; and
- d. a sternum hinge member having flexibility along a longitudinal axis passing between said right and left cup.

2. The breast and chest protector as claimed in claim 1 wherein said sternum hinge member of said chest and breast protector comprises an upper and lower sternum hinge providing limited flexing movement along said longitudinal axis.

3. The chest and breast protector as claimed in claim 2 wherein said chest and breast protector further comprises:

- a. a right and left bottom lip extending just below the right and left breast providing vertical support to the breasts and protection to the ribs just below the breasts; and
- b. a strapping means to firmly secure the breasts within said chest and breast protector against the chest area of a woman whereby the breasts and surrounding connective tissues are protected from adverse effects of acceleration and deceleration movements.

4. The chest and breast protector as claimed in claim 3 wherein said soft rubberized foam exterior has a slightly greater thickness than that of said interior soft rubberized foam interior for absorbing direct impact upon said soft rubberized foam exterior of said chest and breast protector such that contact by a ball in play may mimic normal body contact.

* * * * *

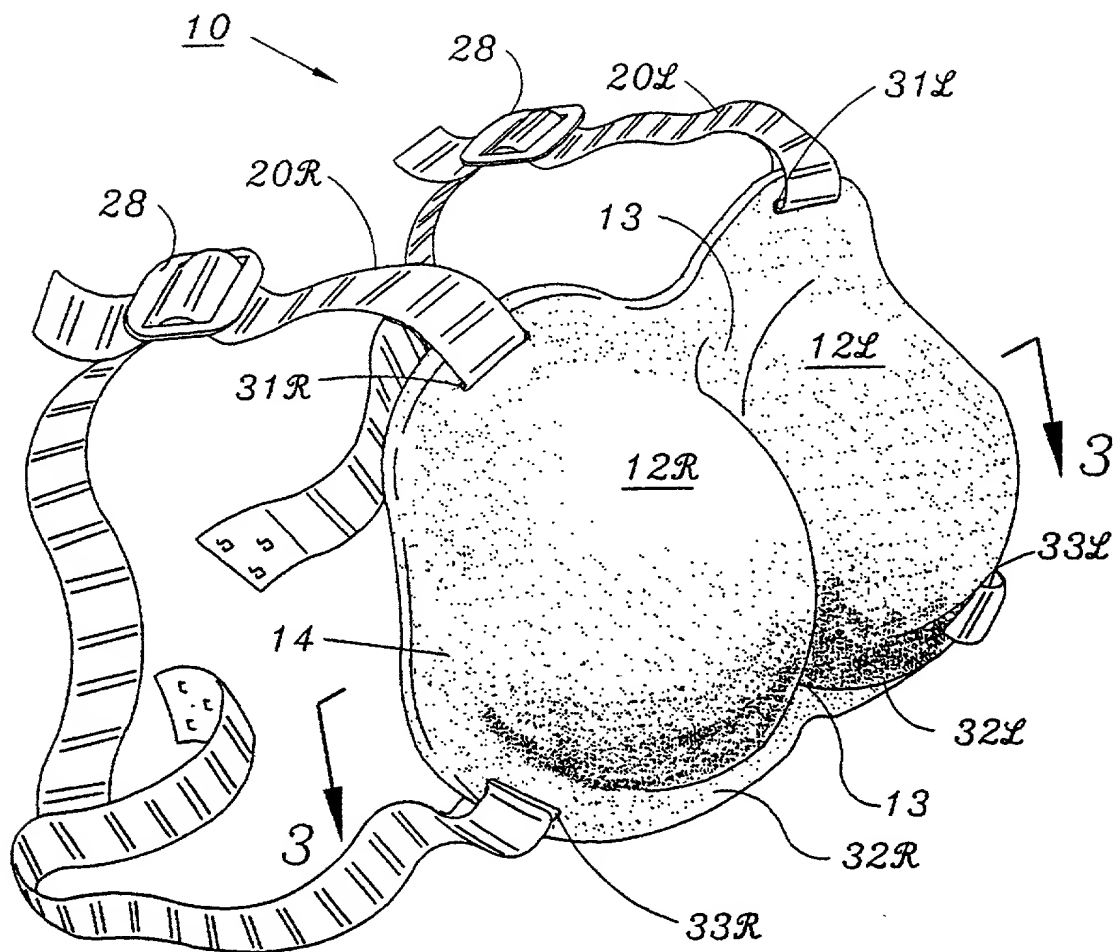
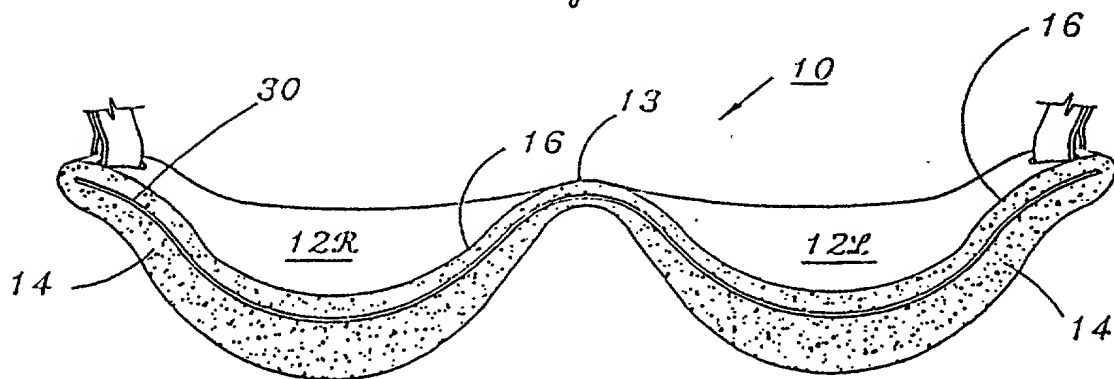
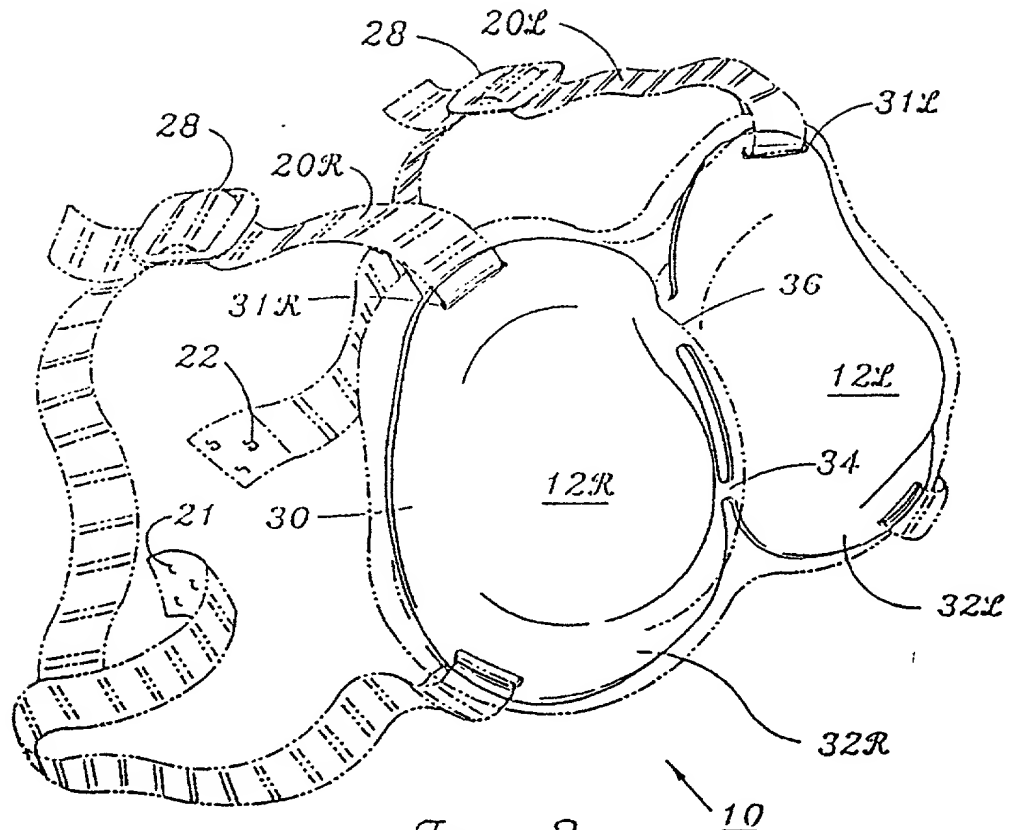


Fig. 1



Reissue Application Declaration by the Inventor

Title: Athletic Breast and Chest Protector
Attorney Docket No. 1575.001

I, David L. Holliday, declare that I am a citizen of the United States of America, and my residence is 903 Blockade Lane, James Island, South Carolina 29412, that I verily believe myself to be the original, first and sole inventor of the invention described and claimed in United States Letters Patent Number 5,769,688, granted June 23, 1998, and in the foregoing specification and for which invention I solicit a reissue patent; that I do not know and do not believe that said invention was ever known in the United States of America before my invention thereof, that I believe the original patent to be wholly or partly inoperative, by reason of my claiming less than I had a right to claim in the invention and specifically, in that the invention is directed to a unitary breast plate which is flexible along a longitudinal axis between the left cup and the right cup, was not claimed in the patent as issued; that such a device is not found in the prior art; the device as claimed in claims 1 through 4 of U.S. Patent 5,769,688 is further limited than my invention.

The error in claiming less than I had a right to claim in the original patent arose without any deceptive intention on my part. U.S. Patent No. 5,769,688 was prosecuted by a different attorney and firm than is named as my attorney herein, and I did not become aware of the apparent availability of broader claims until my subsequent consultation with counsel after my patent issued.

I hereby offer to surrender the original patent, U.S. Patent No. 5,769,688.

I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment; that

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56(a); that


I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

I hereby appoint the following attorney to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: B. Craig Killough, Registration Number 30,398. Address all telephone calls to B. Craig Killough at telephone number (803) 577-7700.

Address all correspondence to B. Craig Killough, 134 Meeting Street, Suite 300, Post Office Drawer H, Charleston, South Carolina 29401.

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David L. Holliday

Dated: 2/4/89

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